

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. - 79. (Canceled)

80. (Currently amended) A polypeptide consisting essentially of:

a first and a second interactor domain, and a circularly permuted TEM-1 β -lactamase protein;

wherein the first interactor domain ~~binds to a single ligand, and the first interactor domain~~ is selected from the group consisting of an antibody, an antigen, a first monomer of a hetero-dimerizing helix, a second monomer of a hetero-dimerizing helix, a receptor, a member of an expressed sequence library, a member of a constrained peptide library, and a scaffold-peptide member of a thioredoxin peptide library;

wherein the second interactor domain ~~binds to said single ligand, and the second interactor domain~~ is selected from the group consisting of an antibody, an antigen, a first monomer of a hetero-dimerizing helix, a second monomer of a hetero-dimerizing helix, a receptor, a member of an expressed sequence library, a member of a constrained peptide library, and a scaffold-peptide member of a thioredoxin peptide library;

wherein the first interactor domain is fused to the circularly permuted β -lactamase protein through the N-terminal break-point ~~of the circularly permuted β -lactamase protein~~ and the second interactor domain is fused to the circularly permuted β -lactamase protein through the C-terminal break-point ~~of the circularly permuted β -lactamase protein,~~

wherein said N-terminal break-point and said C-terminal break-point ~~of the circularly permuted TEM-1 β -lactamase protein~~ are within 10 amino acids in either direction from a junction of between 2 amino acid residues in a solvent exposed loop between amino acid

residues Thr 195 and Ala 202 and, located between alpha helices 7 and 8 of said TEM-1 β -lactamase protein,

wherein said circularly permuted TEM-1 β -lactamase protein is functionally reconstituted only upon binding of said first interactor domain ~~and~~ to said second interactor domain ~~to said single ligand.~~

81-84. (Canceled)

85. (Currently amended) The polypeptide of claim 80, wherein said circularly permuted β -lactamase protein consists of amino acids 26 to 288 of the following sequence prior to circular permutation

His	Pro	Glu	Thr	Leu	Val	Lys	Val	Lys	Asp	Ala	Glu	Asp	Gln	Leu	Gly
26				30					35					40	
Ala	Arg	Val	Gly	Tyr	Ile	Glu	Leu	Asp	Leu	Asn	Ser	Gly	Lys	Ile	Leu
				45					50					55	
Glu	Ser	Phe	Arg	Pro	Glu	Glu	Arg	Phe	Pro	Met	Met	Ser	Thr	Phe	Lys
				60					65					70	
Val	Leu	Leu	Cys	Gly	Ala	Val	Leu	Ser	Arg	Ile	Asp	Ala	Gly	Gln	Glu
				75					80					85	
Gln	Leu	Gly	Arg	Arg	Ile	His	Tyr	Ser	Gln	Asn	Asp	Leu	Val	Glu	Tyr
90					95					100				105	
Ser	Pro	Val	Thr	Glu	Lys	His	Leu	Thr	Asp	Gly	Met	Thr	Val	Arg	Glu
							110			115				120	
Leu	Cys	Ser	Ala	Ala	Ile	Thr	Met	Ser	Asp	Asn	Thr	Ala	Ala	Asn	Leu
							125			130				135	
Leu	Leu	Thr	Thr	Ile	Gly	Gly	Pro	Lys	Glu	Leu	Thr	Ala	Phe	Leu	His
							140			145				150	
Asn	Met	Gly	Asp	His	Val	Thr	Arg	Leu	Asp	Arg	Trp	Glu	Pro	Glu	Leu
								155						160	
														165	

Asn Glu Ala Ile Pro Asn Asp Glu Arg Asp Thr Thr Met Pro Val Ala
170 175 180 185
Met Ala Thr Thr Leu Arg Lys Leu Leu Thr Gly Glu Leu Leu Thr Leu
 190 195 200
Ala Ser Arg Gln Gln Leu Ile Asp Trp Met Glu Ala Asp Lys Val Ala
 205 210 215
Gly Pro Leu Leu Arg Ser Ala Leu Pro Ala Gly Trp Phe Ile Ala Asp
 220 225 230
Lys Ser Gly Ala Gly Glu Arg Gly Ser Arg Gly Ile Ile Ala Ala Leu
 235 240 245
Gly Pro Asp Gly Lys Pro Ser Arg Ile Val Val Ile Tyr Thr Thr Gly
250 255 260 265
Ser Gln Ala Thr Met Asp Glu Arg Asn Arg Gln Ile Ala Glu Ile Gly
 270 275 280
Ala Ser Leu Ile Lys His Trp
 285

(SEQ ID NO: 2);

wherein said C-terminal break-point and said N-terminal break-point is between amino acid residues Glu 197 and Leu 198.

86-89. (Canceled).

90. (Currently amended) The polypeptide of claim 80, wherein ~~when~~ said first interactor domain and said second interactor domain bind to a single ligand, and is an antibody, ~~said second interactor domain is a first monomer of a hetero-dimerizing helix, and said ligand is an antigen-second monomer of hetero-dimerizing helix fusion protein, wherein the antibody specifically binds to the antigen; or~~

~~when~~ wherein said circularly permuted TEM-1 β -lactamase protein is functionally reconstituted only upon binding of said first interactor domain is an antibody, and

said second interactor domain is a ~~first monomer of a hetero-dimerizing helix~~, and said ligand is a ~~second monomer of hetero-dimerizing helix-antigen fusion protein~~, wherein the antibody specifically binds to the antigen; or

~~when said first interactor domain is an antigen, said second interactor domain is a first monomer of a hetero-dimerizing helix, and said ligand is an antibody-second monomer of hetero-dimerizing helix fusion protein, wherein the antigen specifically binds to the antibody; or~~

~~when said first interactor domain is a first monomer of a hetero-dimerizing helix, said second interactor domain is an antigen, and said ligand is an antibody-second monomer of hetero-dimerizing helix fusion protein, wherein the antigen specifically binds to the antibody.~~

91. (Currently amended) The polypeptide of claim 90, wherein said ligand is comprised of an antigen fused to a second monomer of a hetero-dimerizing helix protein, said first interactor domain is an antibody, and said second interactor domain is a first monomer of a hetero-dimerizing helix, or

wherein said ligand is comprised of an antibody fused to a second monomer of a hetero-dimerizing helix protein, said first interactor domain is an antigen and said second interactor domain is a first monomer of a hetero-dimerizing helix and ~~said second~~

wherein the first monomer of the hetero-dimerizing helix specifically binds to the second monomer of the hetero-dimerizing helix protein and the antibody specifically binds to the antigen ~~monomer of a hetero-dimerizing helix are selected from the group consisting of c-fos and e-jun.~~

92. (Currently amended) The polypeptide of claim ~~90~~ 91, wherein the antibody is an scFv.

93-97. (Cancelled)

98. (New) The polypeptide of claim 80, wherein the first interactor domain is fused through a first flexible polypeptide linker to the circularly permuted β -lactamase protein through the N-terminal break-point, and the second interactor domain is fused through a second flexible polypeptide linker to the circularly permuted β -lactamase protein through the C-terminal break-point.

99. (New) The polypeptide of claim 98, wherein said first polypeptide linker is 3-30 amino acids in length; and wherein said second polypeptide linker is 3-30 amino acids in length.